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FLUSH

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EDITORIAL

Engineers are not interested in writing letters. As a matter of fact, very few of you have passed English 211. However, since you will spend the rest of your lives filling out forms as you now do in Physics and since you are too busy to write letters, the Editors have drawn up a form letter. All you have to do is to cross out the inappropriate terms and send the form to the Editors of the Flush to express your appreciation or dissatisfaction with this paper.

The Editors.

Dear Mr. Editor:

I am (dismayed, disappointed, bored, pleased) with the (article, editorial, unreadable nonsense) which appeared in your (rag, scandal sheet, learned Journal) of ....(Date).

In your editorials you (point to problems that we engineering students face, treat us like morons), and your joke section is (sophisticated, corny, horrible, for the birds, very lively). The "Down the Drain" column is (disgraceful, witty, libelous, scandalous) and I (commend it, intend to sue, will write to my lawyer).

In closing, I hope you will (keep up the good work, continue to produce a fine paper, drown yourself in a glass of beer at Stanley's, drown yourself in the "Y" swimming pool, flunk out of Engineering).

Yours truly,

___. ___. ___. ___. ___. ....

NOTE: All articles and items for the next issue must be handed in to the Editors before 8 P.M. on Tuesday, Nov. 7th.

AERIAL GEODETIC SURVEY BY RADAR

The radar system with which most people are acquainted depends for its operation on the principle that burst of radio energy is sent out, hits a target and then bouces back toward the radar equipment which receives this "echo", amplifies it and displays it on a cathode ray tube.

The radar system used for aerial survey is this type of system slightly modified. Due to the fact that it is hard to distinguish the different echoes, use is made of ground radar receivers and transmitters. The airborne equipment sends out a radio frequency pulse being picked up by the ground receiver which immediately upon receiption "fires" its own ground transmitter. In time, this ground emitted pulse is received by the airborne radar. With the associated equipment in the aircraft, the time elapsed from the first transmission and final receiption is measured and recorded. Of course, the process just described is repeated many times a second.

Now consider "Fig. 1" which is a plan view representing an aircraft so equipped, flying in a direction perpendicular to a line (the base line) joining two ground stations. While in this path, the airborne radar alternately transmits pulse at two preset frequencies; each ground receiver is individually tuned to one or the other of these frequencies, thus permitting time identification of the two ground stations.

Knowing the speed of light (186,000 miles per second) it is a simple calculation to determine the slant distance from the aircraft to each of the ground stations. Then, with the reading of the altimeter, elementary trigonometry is applied to find the true distance from the ground station to the point on the earth directly under the aircraft.

"Fig. 2" enables us to examine the operation from a different point of view. It is now possible to realize that the true distances measured vary as the aircraft approaches the base line. The sum of these two distances is large at the start of the "transit", decreases while approaching the mid-point and increases again once passed it. These recorded distances are then plotted against time resulting in a parabola whose vertex indicates the true minimum distance between the two ground stations.

The question may now arise as to how these stations may be located with respect to other known points on the earth. (Refer to Fig. 3). This is done by finding, in the above described manner, the true distance from one station to any two known locations. By spherical trigonometry, the actual geodetic position of this new ground station can be adequately determined. As we move away from the original two "bench marks", it is now possible to use this particular ground station as a reference point. From this basic triangle, a large network may be built up.

That is very basically the principles underlying aerial survey. To give an idea of the stupendous aid of this system, it took 10-annual 3 month periods to survey most of the Northern parts of the Canadian provinces, the Northwest Territories, as well as the Arctic Islands right up to the Northernmost tip of Ellesmere Island.

Note to the Editor: Look, Gerry, if you find this paper confusing, blame it on yourself for having asked me to condense a technical paper in two pages.

J.M.N. (Bert) Martin S.E.I.C.

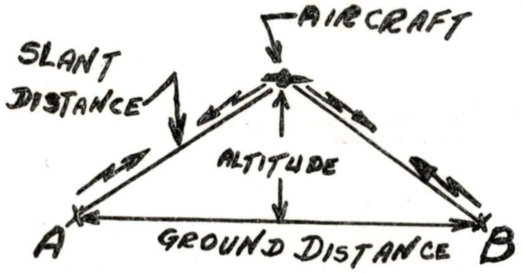

FIG. 1

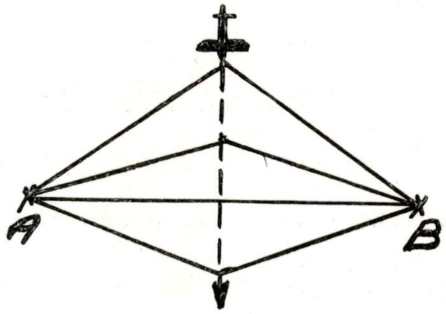

FIG. 2

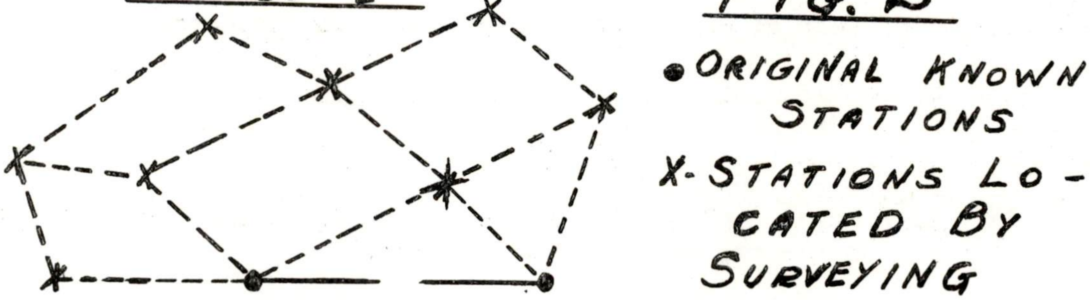

FIG. 3

COMING MOVIES

On Nov. 1 Flame Hardening
Flame Conditioning (37 min.) Room: 327

On Nov. 8 Heat Treatment of Al. Alloys (42 min.) Room: 327

POWER FOR PROGRESS

Pictorial progress of a power line built over extremely difficult terrain in the north of Finland. Emphasis is on the specific problems encountered while constructing this line and how they were solved--- from tower footings to tower erection and conductor stringing. Produced by the Finish State Power Board.

POWER FRONTIER

Produced by Morrison-Knudsen, principal contractors for the power development section of Alcan's Kitimat Project. Tells the story of the building of the huge Kenney Dam, the drilling of the ten-mile tunnel, and describes the excavation of the great cavern inside Mt. DuBose to house the electrical generating equipment. The film is of interest to all audiences, for in telling of how many skills and heavy machines are involved in today's construction work, technical language is avoided.

HAVE YOU HEARD ABOUT THE LITTLE MORON WHO........

1. Was feeling low and got slapped in the face?
2. Kissed the street car goodbye and wnet to work on his wife?
3. Cut off his arms so he could play the piano by ear?
4. Punched his girl-friend in the eye so he could have a blind date?
5. Took his girl-friend on Notre-Dame Street, down to Inspector?

SPORTS

Here is a brief outline of the sport activities and the facilities that are provided for the engineers by the university.

Y.M.C.A. CARD: Any student can obtain a Y.M.C.A. card at the Information desk on the ground floor of the Y.M.C.A. building by presenting his registration card, and he can get a basket at the Stanley Street locker room in which he can keep his Gym costume, running shoes, etc. The Y card and the basket are FREE of charge. This Y card entitles the student to use all the facilities of the Y.M.C.A. (Gym, swimming pool etc.).

INTRAMURAL SPORT ACTIVITY PROGRAMME: Students at Sir George are offered a wide variety of sports through the intramural program. Intramural sports provide the average skill level student with the opportunity for participation and competition. Intramurals also provide the opportunity for development of social relationships, faculty spirit, and rivalry, without the intense competition of intercollegiate sports.

The following sports are included in the intramural program: Fast-ball, Handball, Fencing, Bowling, Curling, Squash, Badminton, Volleyball, Basketball, Hockey, Wrestling, Table tennis, Swimming, Rifle club Skiing, Golf.

For further details and information, please contact:

Nick Bertalanits Eng. III
Sport Rep.

KEEPING THE FLOW CONSTANT

GIRLS IN THE POWDER ROOM

CAUTIOUS GIRL:

CENSORED!

AH! TOO BAD. —

DOWN THE DRAIN

- The "YEZ" man is starting to say "NO" to quite a few professors - eh Ben!
- John Fleming's girl has threatened to discontinue paying the insurance on his father's car if he doesn't behave himself. Better be careful, John!
- WHO let that McGill'ian into the surveying class?
- Royal Canadian Engineer Ian Robertson bewails Russia's decision to test the 50 megaton bomb. Says Ian: "If there is a nuclear war, I'll be out of a job when I graduate."
- Nice going on the artistry Al. Your leaky feelings on the subject will stick with us for a long while.
- Uncle Jack is still smoking the cheap, evil smelling 2 1/2 cent cigars.
- Someone said that Casey Jones was coming to Sir George to give lectures. Is that true?
- Barry Beauchamp has already begun to feel the physical and mental strain of Eng. III. A reliable source insists that he asked his sister to find him a steady. A very commendable step Barry!
- Big Pete was seen all dressed up again. What is it this time Pete, a Date or "Drauftling"?
- Paul Ratki should be more careful and not bang the coat hangers when he comes in late at the Physics lectures. It seems it invariably wakes Gerry up.
- Pete Oelmacher is travelling incognito lately. - No HAT.........No HAIR.
- Fred, you'd better forget about your father's boss' daughter. A certain nurse is sure not to like it.
- Prof. Senez is looking for someone to accompany him in his car. It seems he forgets to leave his quarters at the Victoria Bridge toll gates.
- Have you ever noticed that bewildered look on Bruce's face when he wakes up from his early morning snooze in the Physics Lecture?
- Donations are now being collected for Prof. Petolas. With roller skates, maybe he'll go faster?
- Pete, the fellows would like to know what you do for cigarettes and matches on Saturdays and Sundays?
- If a certain Mr. M_______ would spend more time working on his own drawing rather than looking at everyone elses, he might just get more done.
- Have you heard of the latest type of spaghetti? Well, it consists of alternate dishes of Roast Beef sandwiches and quarts of Canada's finest. For the complete recipe, contact Mr. W_ _ _ _ _ _.